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BP-176E

The Federal Deficit and Debt: Some Differing Views

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20 April 1988

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ABSTRACT

Soon after coming into power, this government issued a strong statement on the condition of federal finances and the apparent lack of control over the accumulation of debt. It promised a fiscal policy that would bring annual deficits under control. While the issue is not as politically intense as it was only a few years ago, the deficit issue does emerge every time new programs or tax cuts are demanded

The first part of this paper considers the possibility that the deficit is no more than an accounting illusion and the circumstances under which it gives an inaccurate indication of the degree of fiscal stimulus produced by the government or the prudence of government policy. The latter part of the paper examines the consequences of deficits on the workings of the economy and the degree of economic welfare enjoyed by households. That discussion deals with the short-term effect of deficit finance during times of poor economic performance as well as the longer-term implications of debt accumulation. —

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THE FEDERAL DEFICIT AND DEBT: SOME DIFFERING VIEWS

INTRODUCTION

There are so many views of the deficit that it is difficult for a casual observer to come to any conclusion as to the appropriate stance for government fiscal policy. The average citizen knows that deficit reduction means an increase in taxation or a decline in the level and growth of government services. Such an effect is immediate and observable, while promises of resulting lower taxes and/or higher services, or improved economic performance are far away and uncertain. Deficit reduction promises sure and instant economic pain, offset by rewards far in the future. It is no wonder that deficit cutting is a virtue which is not highly-prized by voters and politicians.

Budgetary deficits are not only inevitable in the course of economic history, they are called for in certain circumstances. To some extent they are illusory -- the result of an accounting time framework which is not consistent with the temporal pattern of expenditures and income. The fact that we have such a sophisticated capital market bears witness to the fact that budgetary deficits are sometimes desirable and sanctioned by the participants in the economy. But while we may talk in this way of deficits in general, the real issue is whether or not our existing deficits are desirable and productive.

The following discussion examines the issue in general and specific terms and presents arguments from a variety of perspectives.

THE DEFICIT DEFINED

The deficit can be measured either on a Public Accounts (PA) basis or on a National Accounts basis. The Public Accounts deficit excludes non-budgetary transactions of the government such as investments and advances to Crown corporations and others, and transactions of specified purpose accounts such as the CPP, UIC and superannuation accounts. The National Accounts deficit measures the net impact of government on the income and expenditure flows of the economy. It excludes transactions on existing assets. In general, this deficit is smaller than the PA deficit.

The deficit is a flow concept; it defines the discrepancy between revenues and expenditures over some period of time. A related concept is the debt measure, which gauges the accumulated liabilities of the government at some point in time. Gross liabilities are important because they are the basis for debt charges paid by the government. Net debt, on the other hand, establishes the net worth of the government at any point in time and represents the accumulation of past deficits. The change in net debt over a one-year period constitutes the PA deficit for that year.

The discussion here will concentrate on the federal government's deficit and debt. Only the federal government has the option of monetizing the debt, i.e., printing money to reduce its debt load. The federal deficit is larger than that of other governments in Canada and it tends to move in opposite directions to GNP (i.e., it is be counter-cyclical); the deficits of provincial governments tend to be more pro-cyclical. The benefits and costs of deficits to the economy, however, largely stem from deficits of both federal and provincial governments.

The following tables, which give gross and net debt trends for OECD nations, are presented on a consolidated government basis.(1)

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(1) J.-C. Chouraqui, et al., "Public Debt in a Medium-Term Perspective," OECD Economic Studies, No. 7, Autumn 1986, Paris, p. 103-153.

Table 1. Gross public debt as a percentage of nominal GNP/GDP

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984[a]	1985[a]	1986[a]
United States	44.1	40.9	40.1	43.3	43.3	41.8	39.9	37.8	38.0	37.1	40.9	43.5	44.4	46.6	48.4
Japan	17.5	17.0	17.9	22.4	28.0	33.4	41.9	47.0	52.0	57.1	61.1	66.9	67.4	67.2	66.8
Germany	18.8	18.6	19.6	25.0	27.0	28.5	29.9	30.7	32.5	36.3	39.4	41.0	41.8	41.9	41.5
France	26.4	25.1	24.7	25.8	24.7	25.2	26.3	26.2	25.0	25.9	28.3	29.8	31.8	33.4	34.9
United Kingdom	75.3	69.7	69.6	65.3	64.1	62.5	59.6	55.7	55.0	55.0	53.6	54.1	55.6	54.4	54.6
Italy	60.1	60.6	57.7	66.3	65.4	65.2	71.2	70.4	67.2	70.3	76.6	84.3	91.1	95.9	99.2
Canada	52.6	46.7	44.4	44.7	42.3	44.2	49.7	46.9	47.9	47.7	53.5	58.7	63.4	67.3	70.3
Total major seven countries	39.3	36.9	36.5	39.6	40.3	40.6	41.7	41.2	42.0	43.0	46.5	49.6	51.1	52.6	53.8
Total major seven less U.S.	34.9	33.3	33.2	36.1	37.6	39.6	43.3	44.2	45.6	48.4	51.6	55.2	57.2	58.1	58.7
Australia	35.9	31.8	29.2	28.5	27.8	29.1	30.3	29.2	26.2	23.4	22.8	24.5	25.6	26.0	25.6
Austria	17.5	17.5	17.6	23.9	27.4	30.1	33.9	36.0	37.2	39.2	41.3	45.7	45.1	44.6	44.2
Belgium	71.4	69.5	64.8	65.8	64.8	68.5	71.9	77.1	82.8	97.2	106.2	116.7	120.7	124.6	128.0
Denmark	10.0	7.9	7.4	11.9	14.6	18.1	21.9	27.2	33.5	43.7	53.0	62.6	67.5	66.9	61.6
Finland	12.4	10.2	8.1	8.6	9.0	10.4	13.5	14.0	13.9	14.7	17.1	18.8	18.5	18.0	18.3
Greece	23.2	19.4	20.3	22.4	22.1	22.4	29.4	27.6	27.7	32.8	36.4	41.4	47.5	52.8	55.0
Ireland	60.8	57.9	65.1	72.3	78.8	76.4	80.0	84.9	87.7	94.1	103.9	109.7	112.9	120.1	122.2
Netherlands	46.6	43.4	41.5	41.3	40.2	39.7	40.9	42.7	45.9	50.3	55.6	62.3	67.0	70.2	75.9
Norway	50.3	48.8	45.9	48.2	50.3	57.0	64.0	66.3	55.9	50.4	45.8	42.5	36.6	31.3	33.3
Portugal		18.5	18.2	26.3	32.1	33.9	37.9	42.3	38.7	48.2	50.5	56.9	61.7	61.7	
Spain	14.9	13.2	12.6	12.9	12.6	13.7	13.9	15.7	17.7	21.3	26.5	32.0	38.4	42.2	44.5
Sweden	30.7	30.0	30.4	29.5	27.5	29.9	34.5	39.6	44.8	52.9	62.6	66.1	67.8	69.0	69.3
Switzerland	37.1	36.4	37.5	42.2	46.3	45.9	45.1	44.1	42.6	39.9	38.8	38.3	39.5		
Total smaller countries[c]	32.6	30.3	28.9	29.9	29.9	31.7	34.3	36.3	37.6	41.4	45.7	50.4	53.2	54.9	56.4
Total of above countries[c]	38.4	36.0	35.5	38.3	39.0	39.5	40.8	40.6	41.5	42.8	46.4	49.7	51.4	52.9	54.1
Total OECD less U.S.[c]	34.4	32.6	32.2	34.3	35.9	37.8	41.4	42.5	43.9	46.8	50.3	54.2	56.4	57.4	58.2

a) Partly estimated.
b) Forecasts.
c) Excluding Portugal and Switzerland.
Source: OECD.

Source: J.-C. Chouraqui, et al., "Public Debt in a Medium-Term Perspective," OECD Economic Studies, No. 7, Autumn 1986, Paris, p. 108.

Table 2. Net public debt as a percentage of nominal GNP/GDP

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984[a]	1985[a]	1986[a]
United States	25.7	22.9	22.2	24.8	24.7	23.8	21.6	19.8	19.6	19.1	22.1	24.6	26.0	28.1	30.0
Japan	-6.5	-6.1	-5.4	-2.1	1.9	5.4	11.2	14.8	17.2	20.6	23.1	25.8	26.4	26.2	25.8
Germany	-5.8	-6.7	-4.7	1.0	4.6	7.0	9.4	11.5	14.3	17.4	19.8	21.8	23.0	23.1	22.6
France	9.1	8.3	8.8	11.1	10.9	10.2	10.2	9.8	9.1	9.9	11.3	13.3	15.1	16.6	18.2
United Kingdom	64.8	57.5	54.9	57.6	57.0	55.9	53.5	48.7	48.2	47.3	46.5	47.4	49.0	47.8	48.0
Italy	50.0	52.1	49.2	59.9	60.9	60.7	64.5	65.5	60.0	66.1	70.8	84.1	91.0	95.7	99.0
Canada	4.3	2.7	1.0	4.3	5.2	7.1	11.6	12.3	13.3	11.6	18.8	23.9	30.0	33.9	37.0
Total major seven countries	19.1	17.2	16.8	20.3	21.3	21.6	22.0	21.6	21.9	22.8	25.5	28.5	30.3	31.8	33.0
Total major seven less U.S.	13.2	12.0	11.9	16.2	18.2	19.6	22.3	23.3	23.9	26.1	28.5	32.0	34.2	35.1	35.7
Australia	35.9	31.8	29.2	28.5	27.8	29.1	30.3	29.2	26.2	23.4	22.8	24.5	25.6	26.0	25.6
Austria	17.5	17.5	17.6	23.9	27.4	30.1	33.9	36.0	37.2	39.2	41.3	45.7	45.1	44.6	44.2
Belgium	59.8	56.7	53.7	54.1	54.2	58.0	60.9	65.5	69.7	82.1	90.4	101.4	105.3	109.3	112.6
Denmark	-9.1	-12.3	-13.6	-10.1	-7.7	-5.0	-2.2	1.9	7.2	16.6	26.3	34.1	37.5	36.2	30.9
Finland	-8.1	-10.7	-10.6	-9.5	-10.5	-10.0	-8.3	-6.8	-6.1	-4.7	-1.9	-0.2	-0.5	-1.0	-0.7
Greece	23.2	19.4	20.3	22.4	22.1	22.4	29.4	27.6	27.7	32.8	36.4	41.4	47.5	52.8	55.0
Ireland	32.7	31.9	36.9	45.2	51.6	50.3	56.0	63.1	68.4	73.4	81.8	87.6	90.9	98.1	100.1
Netherlands	24.6	21.0	19.1	19.8	20.4	19.3	20.1	21.8	25.0	27.4	31.3	36.8	41.4	44.7	50.3
Norway	0.6	-1.4	-1.8	0.7	3.5	9.5	14.0	16.9	6.9	3.2	1.2	-2.2	-8.1	-13.4	-11.4
Portugal		18.3	18.0	26.2	32.0	33.8	37.1	41.6	38.3	48.2	50.5	56.9	61.6	61.7	
Spain	2.1	1.7	1.3	1.3	0.7	2.0	3.0	5.0	7.1	10.3	13.8	18.2	22.6	26.4	28.7
Sweden	-29.6	-31.1	-30.1	-28.8	-29.7	-28.9	-25.3	-19.8	-13.6	-5.3	4.5	10.6	12.7	13.9	14.2
Switzerland	15.2	15.9	16.7	19.8	20.9	21.2	20.2	20.7	19.2	18.1	17.3	17.4	16.7		
Total smaller countries[c]	14.1	11.7	10.8	12.0	12.4	13.8	16.1	18.2	19.6	22.9	26.8	31.3	33.7	35.4	36.8
Total of above countries[c]	18.5	16.5	16.0	19.2	20.2	20.6	21.2	21.2	21.6	22.8	25.7	28.9	30.7	32.2	33.5
Total OECD less U.S.[c]	13.4	12.0	11.7	15.3	16.9	18.3	21.0	22.2	23.0	25.4	28.1	31.9	34.1	35.1	35.9

a Partly estimated.
b Forecasts
c Excluding Portugal and Switzerland
Source OECD

Source: J.-C. Chouraqui, et al. (1986), p. 109.

THE DEFICIT IN CONTEXT

From an economic point of view, the deficit is a meaningful measure if it correctly indicates the government sector's fiscal stance and its financial position. It is now recognized that the raw deficit figure may be misleading because it does not take into account the changes in the level of economic activity or the impact of inflation.

Most of the following discussion refers to the Canadian literature on this topic, with some references to the work of a popular American proponent of deficit adjustments and redefinitions, Robert Eisner.(2)

A. Cyclically-Adjusted Deficits

The ratio of the federal deficit to Gross Domestic Product (GDP) exhibits a cyclical pattern in relation to the level of economic activity. As the economy moves into a recession, the deficit increases as government expenditures rise and revenues fall. This is an example of the automatic stabilization of fiscal policy. At the same time as the numerical deficit is increasing, the denominator, i.e., the level of GDP, is falling or at least growing at much reduced rates. As economic activity recovers, this process tends to be reversed.

Business cycles therefore make the numerical deficit figures and their relationship to GDP more than indicators of fiscal policy: they may also be indicators of economic activity. Moreover, just as personal and corporate finances may suffer periodic and temporary setbacks, the government's financial position may be misconstrued because of recessionary influences.

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(1) J.-C. Chouraqui, et al., "Public Debt in a Medium-Term Perspective," OECD Economic Studies, No. 7, Autumn 1986, Paris, p. 103-153.

(2) R. Eisner, "Will the Real Federal Deficit Stand Up?", Challenge, May-June 1986, p. 13-21; and R. Eisner and P.J. Pieper, "How to make sense of the deficit," Public Interest, No. 78, Winter 1985, p. 101-118.

In Canada, several prominent studies have attempted to deal with these distortionary effects. The Department of Finance(3) produced a document in 1983 which argued that the post-1981 deficit contained an extremely large cyclical component which would largely disappear by 1987. Two University of Toronto economists published a paper(4) in the same year in which they argued that the cyclically-adjusted fiscal stance of the federal government was excessively contractionary at the start of the recession. They further argued that without significant additional fiscal stimulus, the downturn would be relatively long lasting, predicting no growth in real GDP for 1983. Another study in the same vein suggested that no structural federal deficit existed at all -- it was entirely cyclical or the result of inflationary distortions.(5)

Two years later, the fiscal stance of the federal government was again judged to be very restrictive. The Department estimated the structural deficit to be 3.7% of GDP for 1985 and 1.8% of GDP for 1986. Professor Wilson of the University of Toronto further estimated a structural deficit for 1987 at 1.3%-1.5% of GDP.(6) The National Accounts based deficits turned out to be 6.7% of GDP in 1985 and 4.9% of GDP in 1986, leaving a very large non-structural component to be explained -- 3% of GDP in both years.

To make the kinds of cyclical adjustments in the studies referred to above is a complicated procedure and it would not be very useful to examine their details. But it seems obvious that a cyclical

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(3) Canada, Department of Finance, The Federal Deficit in Perspective, Ottawa, April 1983.

(4) J. Bossons and D.P. Dungan, "The Government Deficit: Too High or Too Low?" Canadian Tax Journal, Vol. 31, No. 1, January-February 1983, p. 1-29.

(5) J. McCallum, "Government Deficits: Historical Analysis and Present Policy Alternatives," in D.W. Conklin and T.J. Courchene (eds.), Deficits: How Big and How Bad? Ontario Economic Council, Toronto, 1983, p. 284-317.

(6) T. Wilson, "The Fiscal Stance and the Economic Outlook -- The Short-Term Impact," in D.D. Purvis (ed.), Report of the Policy Forum on the May 1985 Federal Budget, John Deutsch Institute for the Study of Economic Policy, July, 1985.

deficit should be sensitive to dramatic changes in the business cycle. By the end of 1986, real GDP was 18.1% higher than in 1982 yet the ratio of the deficit to GDP was still 4.9%, down only from 5.4% in 1982, while the yearly unemployment rate had declined to 9.6% of the labour force from 11%. While the unemployment rate was still above its pre-recessionary level, real GDP, in total and per capita, had improved.(7) By all accounts then, the cyclical deficit should have been much lower in 1986 than the 1982 figure of 3.1% of GDP and the balance would have to be classed as a structural deficit. Yet this conclusion is exactly the opposite of the projections of the Department and Professor Wilson who predicted that the cyclical deficit would be constant or even increase from 1984 to 1986. The cyclical component of the federal deficit that they use, seems to be impervious to any improvement in the business cycle.

Because cyclical adjustments use the unemployment rate as their starting point, changes in unemployment have tended to be viewed as cyclical. In fact, higher unemployment rates in Canada seem to be partly due to structural and demographic changes which appear to have been heightened during the years of the recent recession. Although the studies cited above pay lip service to such structural change, they still make use of an unemployment rate which bears little resemblance to that which Canada will likely experience over the course of this business cycle. If these adjusted deficits are to be used as a basis for forming fiscal policy, it is also important that appropriate unemployment rates are used in adjusting for cycles.

The position of the Ontario Economic Council is very forthright in this regard. A cyclically-adjusted deficit because of its stability, provides a useful benchmark against which to judge the changing stance of fiscal policy over time, even if the adjustment is unrealistic. However, if cyclically-adjusted deficits are to be used as a policy guide, it is essential that the adjustment be made in light of realistic views of the economy's performance. If over the course of the economic cycle, unemployment varies between 8% and 12%, averaging 10%, then a cyclical

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(7) From 1981 to 1986, real GDP increased by 14% and real GDP per capita increased by 9%.

adjustment based on 7% unemployment will lead to calls for greater deficits even at the height of recovery.(8)

Attempts to measure the cyclical component of the American budgetary stance resulted in several budgetary concepts, with each being an attempt to reflect more accurately actual economic conditions. Thus the "full-employment budget deficit" concept gave way to the "high-employment budget deficit" concept used by Robert Eisner in his articles on the deficit. The U.S. Department of Commerce has since developed a new measure based on "middle-expansion trend" which is more representative of attainable economic performance in recent years.(9)

B. Inflation-Adjusted Deficits

The indebtedness of the federal government is measured by the stock of debt outstanding at any point in time. This debt, which is repayable some time in the future, usually has a pre-determined repayment value and some pre-set rate of interest. The nominal debt charges paid by the government contain two components: one which reflects the expected change in prices and one which reflects the real cost of borrowing. With borrowing. With inflation rates greater than zero, a part of any interest payment will include a prepayment of the real value of the principal and therefore not all of the debt charges should be included in the calculation of the deficit.

The Department of Finance has undertaken to correct this mismeasurement inherent in the raw deficit figures. By calculating the decline in the real value of net fixed-value liabilities, the Department was able to argue that the deficit to GNP ratio was overstated by about 1.8 percentage points in 1981 and 1982.(10) The Department's adjustments

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(8) Ontario Economic Council, Deficits: How Big and How Bad?" An Ontario Economic council Position Paper, Toronto, 1985, p. 20-21.

(9) M.E. Levy, "A Summary of the Proceedings of the Conference Board's Economic Policy Forum," in M.E. Levy et al., Federal Budget Deficits and the U.S. Economy, The Conference Board, New York, 1984.

(10) Canada, Department of Finance (1983).

do not go beyond 1982 but we have attempted to replicate their adjustments. After 1982, the inflation rate dropped sharply and as a result, the inflation adjustment fell to 0.87% of GNP in 1983 and 0.57% of GNP in 1984. The stock of net debt has increased rapidly, however, leading to an increase in the adjustment to just over 1% of GNP for 1985 and 1986.

If inflation is correctly anticipated, these adjustments are appropriate because they constitute a repayment of the real value of outstanding debt and are not an expenditure in the normal sense of the word. If the inflation is not correctly anticipated, the debtor in fact receives a windfall gain. The inflation adjustment commonly used does not distinguish between these two cases.

While it is conceptually correct to make such adjustments, the implication for economic policy is not as straightforward.

The debt comprises a wide range of liabilities which contain many terms to maturity and inflation premiums. Inflation adjustments are carried out with the use of ex post inflation rates. If all the debt were indexed to inflation, then any change in the inflation rate would be reflected immediately in changed nominal interest payments and any inflation adjustments would be neutral. Such neutrality is not assured with a debt that is not indexed.

For example, where the existing debt charges contain an inflation premium of 5%, an increase in the inflation rate to 10% will provide a windfall to the government equal to 5% of the debt outstanding. Only new debt will be subject to this new 10% inflation premium.

The policy implications of inflation-adjusted deficits may then be ominous. By inflating at rates which exceed those embedded in the stock of debt, the government can reduce the real value of the debt outstanding and gain a windfall. This reduces the inflation-adjusted deficit and thus might provoke calls for further fiscal expansion. A continuation of such a policy would lead eventually to an elimination of long-term financing for the government but in the meantime it could provide an excuse for a deliberately inflationary policy. If large deficits are themselves inflationary, through the monetization of debt, it is possible that an unstable fiscal policy would ensue, with large deficits leading to

inflation, which would lead to larger inflation adjustments, which would lead in turn to further increases in the deficit on the grounds that the actual deficit is really not expansionary.

The use to which adjusted deficits are put will determine the parameter values for making the adjustments. The use of ex post inflation rates is valid for descriptive purposes but it can be counter productive when used as a basis for policy.(11) When the monetary authorities have a target inflation rate which is lower than the prevailing rate, prudent policy would not permit nominal government liabilities to grow faster than that target rate. Inflation adjustments should not be used to validate existing inflation rates in an environment of deflationary monetary policies.

An inflation adjustment is necessary because of the mismeasurement of the deficit in the presence of inflation. Raw deficit data do not properly measure how much purchasing power is being transferred to or from the private sector. For policy purposes, however, inflation adjustments may be destabilizing, since higher debt stocks and higher inflation lead to reductions in the calculated structural deficit yet are themselves the result of imprudent deficits.(12)

C. Interest Rate-Adjusted Deficits

Changing market conditions will alter the market value of securities with fixed returns. For example, a bond issued today at $1,000 and repaying $1,100 in one year's time would have a market value of only $917 if interest rates increased to 20%. Such a decline in the market value of government debt, should be reflected in a proper accounting of the government's deficit, according to some analysts. In 1980, the market

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(11) N. Bruce and D.D. Purvis, "Fiscal Discipline and Rules for Controlling the Deficit: Some Unpleasant Keynesian Arithmetic," in D.W. Conklin and T.J. Courchene (1983), p. 323-340.

(12) N. Bruce and D.D. Purvis, "Consequences of Government Budget Deficits," in J. Sargent, research coordinator, Fiscal and Monetary Policy, Vol. 21, Research Reports of the Royal Commission on the Economic Union and Development Prospects for Canada, 1986, p. 43-84.

value of U.S. government securities outstanding was only 92.9% of par value.(13) This percentage should have declined even further as interest rates continued to increase, and moved up once rates started to decline.

Is it legitimate to adjust the deficit for changes in the market value of the debt caused by interest rate changes? The authors seem to indicate that the use of par values misrepresents the true extent of government liabilities and an increase in interest rates confers a windfall on issuers of fixed return securities which should be reflected in their accounts. If the increased nominal interest rate is due to higher inflation then it will be taken into account under inflation adjustments, and no further alterations are needed. But what if it is due to higher real interest rates?

Despite the argument made in the Eisner and Pieper article, there appears to be no valid justification for making an interest rate adjustment. Once the original bond has been issued, the government makes the same total payment no matter what happens to interest rates. In the above example, after one year, the government must pay $1,100. If it tries to capture the apparent windfall by buying back its bonds at $917, it must borrow the funds at a 20% interest rate and pay back ($917) * 1.2 = $1,100 after one year. Nothing would be gained by this strategy, as the apparent windfall is not one which the government can capture. Only if the government reduces expenditures, or raises taxes, can it capture this decline in the market value of its debt.

Adjusting for interest rate increases which do not result from inflation seems, then, to be totally without merit.

D. The Deficit as an Accounting Fiction

The inflation adjustment discussed in the previous section would rectify a mismeasurement of the deficit. Another mismeasurement occurs when no distinction between expenditures on current and capital items is made in the accounting framework.

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(13) R. Eisner and P.J. Pieper, "How to Make Sense of the Deficit," Public Interest, No. 78, Winter 1985, p. 103-104 and p. 110.

Expenditures on capital goods involve the purchase of long-lived assets which generate a stream of benefits over time. Incurring debt for the accumulation of such capital is well accepted and has quite different financial consequences from the incurring of debt for expenditures on goods and services which provide only immediate and fleeting benefits. It is possible that what some view as evidence of profligate government spending is in fact much needed investment in the future well-being of Canadians.

In this respect, what matters is not so much the size of the deficit as the how it is spent. Separating the government's accounts into a capital and a current component would reduce some of the unwarranted fears which have grown up around this issue.

One attempt to separate federal government capital spending was made by Finn Poschmann of the Economics Division of the Library of Parliament. For the fiscal year 1986-87, total federal expenditures included capital spending of $13,138 million, 11% of the total. This estimate includes hard capital spending of $4,607 million plus a fairly liberal estimate of $8,531 million in non-physical capital formation.

It is very difficult to construct a series on the stock of human capital, which, like physical capital, depreciates over time; this depreciation constitutes a current expense. When the government's books contain only one account, this depreciation is not an important variable, but once two accounts are used it is essential. Rather than trying to construct a stock of capital estimate and applying the appropriate depreciation rates to it, a more practical method is to attribute to the capital account only net investment in any one year. This can be done by using an average ratio of net investment to gross investment for the government sector or the economy as a whole and applying this to the figures cited above.

On the basis of 1986 National Accounts data, the ratio of net investment to gross fixed capital formation was 37% for the federal government, 40% for the government sector as a whole and 43% for the economy in total. If these ratios are applied to human as well as physical

capital, the current account deficit of the federal government for the fiscal year 1986-87 is in the range of $24,956 million to $25,744 million. This is still 81.5%-84% of the raw deficit figure commonly used for that year. This is only a slight reduction in the deficit, despite the claims of some analysts.(14)

These numbers can be challenged on the grounds that the implicit depreciation rates applied are inappropriate; that may well be the case, especially for human capital. It is, however, incorrect to argue that human capital does not deteriorate. Human capital must not only be refreshed, it is also subject to the obsolescence which results from new knowledge. For example, my knowledge about the production of fuel from wood products might be a benefit to the economy, and therefore a part of the capital stock, but it would depreciate rapidly once a new and better source of energy was discovered. Depreciation rates for human capital may well increase as investment in that capital increases. Any examination of research intensive industries, such as the pharmaceutical industry for example, show that large amounts of capital investment are needed just to maintain market share.

The argument that the deficit is illusory because of accounting practices in the government is valid if it is not taken too far. The accumulation of capital, both physical and human, is quite different from an expenditure which confers no future benefits. The Finn Poschmann calculations though resulted in a deficit reduction of less than 20% and even this is generous.

If business capital expenditures do not result in future income, they are written down and not considered part of the capital stock. No such test is applied to government capital expenditures: an expenditure on education is assumed to produce human knowledge; expenditures on roads, bridges, buildings, airports, etc., are considered to add to the capital stock even though in fact they may in some cases be nothing more than white elephants.

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(14) W. Krehm, "The Deficit as Mirage," Policy Options Politiques, June 1985, p. 36-40.

E. Measuring the Deficit

Like much academic debate elsewhere, the focus of the discussion to this point has been on whether or not a deficit really exists, given the complexities which might make the raw data misleading.

The rest of this paper will discuss the policy debate on large public deficits. It will consider them both in the short and long term and from the point of view of whether they are good or bad or if they matter at all.

DEFICITS AND ECONOMIC ACTIVITY

A. Long-Run vs Short-Run Deficits

Keynesian economics concentrates on the level of aggregate demand and its implications for employment and output. Such economic analyses almost always conclude that the deficit is in fact too low and any policy designed to lower it even further would be counter-productive.

The Keynesian view assumes that full employment is not guaranteed by the workings of the market economy, particularly because investment decisions and savings decisions are made by different players. Savings and investment spending may not match as a result and changing prices such as interest rates or wages will not be sufficient to restore full employment. Traditionally, therefore, there has been little concern over short-run budgetary deficits in the face of business cycles.

This cyclical component of the government budgetary deficit is one which can, and should, be used to smooth out fluctuations in business cycles. Thus it should be responsive to changing private expenditures so as to even out the aggregate level of economic activity. This is quite different from longer-run considerations of the deficit which concentrate on the structural deficit.

Arguments in favour of running government deficits are based on the Keynesian multiplier theory which assumes a link between current

expenditures and current income. A recession causes current private income to fall, leading to less spending and thus to further declines in income. The private sector has difficulty in maintaining its level of spending because capital markets are not perfect and because of the risk of lending when future income is uncertain. By running a deficit at such a time, the government can act as a financial intermediary, borrowing at levels and rates which are not available to the private sector. The deficit and corresponding public borrowing is an efficient substitute for private borrowing and thus allows for a smoothing out of income and expenditures which would not otherwise be available. A cyclical deficit provides economic stimulus when it is needed, just as a cyclical surplus provides restraint when an over-heated economy might generate accelerating inflation.

This view of the short-run benefits of deficit financing that is, short-run mitigation of insufficient aggregate demand, has been widely accepted and is the primary rationale for running deficits.

Recently, however, even this short-run function has been challenged. Our favourable experiences with Keynesian economic policy took place in a world in which the level of government intervention in the economy was much lower than it is today. Growth rates were high; deficits were relatively low and the inflation experience was such that an annual rise of 4% was considered a problem rather than (as today) it is the result of successful monetary policy. In today's environment some are questioning the expansionary short-term effects of deficits.(15)

Critics of deficits do not usually challenge the short-run benefits, but rather the long-run costs of high deficit and debt loads. These are incurred in a number of ways, the chief of which is a "crowding out," a mechanism whereby the government deficits convert into consumption private saving which would otherwise have been converted into investment. The ensuing reduction in the stock of capital eventually results in lower

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(15) M.E. Levy, "A Summary of the Proceedings of the Conference Board's Economic Policy Forum," in M.E. Levy et al., Federal Budget Deficits and the U.S. Economy, The Conference Board, New York, 1984; and Ontario Economic Council, Deficits: How Big and How Bad? An Ontario Economic Council Position Paper, Toronto, 1985, p. 21.

consumption and lower welfare. The long-run consequences of crowding out will be discussed below. First we will deal with the shorter-term consequences on aggregate demand which limit any immediate expansionary consequences of budgetary deficits.

Crowding out can occur in two ways, in the most common of which deficits raise real interest rates and so lower the amount of desired capital formation by the economy. This method may not be entirely relevant in Canada since, as a relatively small open economy, we are price takers in the international capital markets. In this case crowding out would seem to be a problem more associated with others' deficits, particularly that of the United States. It is true, however, that the real rate of interest in Canada is higher than that in the United States and this spread varies somewhat over time. Part of it may be a kind of sovereign risk premium attached to Canadian borrowing on the grounds that loans to Canada are more risky than those to Americans. Increases in the Canadian debt per capita, as a result of persistently high deficits, can exacerbate such premiums. Moreover, at some stage the per capita debt may be so high that monetization is viewed as inevitable, leading to an increase in the inflation premium attached to interest rates. Nevertheless, the chief way in which crowding out can take place in a small open economy is through changes in the external value of the dollar. Increased deficits mean that foreign borrowing is required to finance Canadian consumption. This borrowing drives up the value of the dollar in the short term, reduces exports and so also reduces employment, output and the demand for real capital formation.(16)

B. Deficits and Aggregate Savings

When the government sector spends more than it takes in as revenue, its deficit must be financed in some way, one of which is to borrow from the private sector. A public sector deficit is then matched by a private sector surplus.

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(16) Ontario Economic Council, Deficits: How Big and How Bad?, An Ontario Economic Council Position Paper, Toronto, 1985, p. 31.

The private sector incurs a surplus when the amount that it wishes to save exceeds the opportunities for investment. Some view a government sector deficit therefore as necessary for accommodating this surplus. Otherwise a fall in aggregate income would be necessary for the level of savings to be reduced. Professor Barber argues that the extent of current deficits is a direct result of the large surplus of private savings accumulated during the recent recession. The dramatic decline in private investment, coupled with the increase in private savings would have resulted in a far worse recession had not the government sector have been able to intervene with large deficits to take up this surplus. Deficits can then be seen as a stabilizing mechanism by governments in response to a lack of aggregate demand by the private sector. Professor Barber views this, however, not so much a cyclical problem as a long-term one and in his view, there is little likelihood that any balance can be achieved for a long time.(17)

Professor Barber is correct when he points to the tautology of the savings identity; but he draws a behavioural conclusion which may not be appropriate. The facts he cites may simply be evidence of the workings of the crowding out view of the economy, whereby excess demand for savings by the government sector competes successfully with private demand for savings by bidding up interest rates. Although the evidence to support this is not conclusive, the hypothesis is consistent with the observed pattern of savings and investment.

Furthermore, the Barber analysis dismisses the external sector on the grounds that the Bank of Canada would view the resulting capital outflows as unacceptable and therefore take action to counter it. Canada has traditionally been an importer of savings from abroad. A $7.25 billion inflow of savings in 1981 turned into cumulative outflows of $5.5 billion over the next three years. Canadians were not only investing outside Canada, they were buying back foreign investments in this country. Savings and investment flows since 1981 were of course affected by the recession and by the business and investment climate in Canada brought on

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(17) C. Barber, "We are Saving Too Much," Policy Options Politiques, March 1987, p. 12-13.

by falling energy prices and government policy, most notably the National Energy Policy. It seems likely that what Professor Barber has noted is a short-run phenomenon rather than a long-run problem.

C. The Long Run

One study prepared for the Royal Commission on the Economic Union and Development Prospects for Canada examined long-run policies designed to maximize the level of economic well-being. The authors examined the impact of various amounts of public debt on the capital stock available to the economy. They note that public debt is a substitute for real capital, providing households with an alternative way of investing their savings. On the basis of the observed characteristics of the capital market, they conclude that higher amounts of public debt per capita will reduce the amount of capital and the level of well-being.(18) A similar result was in a more recent study of Canadian fiscal policy, where significant crowding out was found to occur in the long run and where the costs associated with it were found to exceed the short-run benefits of budgetary deficits.(19)

The extent of this crowding out, according to Boadway and Clark, depends upon the intergenerational transfer behaviour of households. If households leave nothing to the next generation, then the crowding-out would be almost dollar for dollar. In other words, a dollar increase in public debt would result in a dollar reduction in private real capital formation. At the other extreme, households would recognize the additional tax burden imposed on their heirs by increased public debt and increase their savings and bequests to children. In this case, an

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(18) R.W. Boadway and W.S. Clark, "The Government Budget, the Accumulation of Capital, and Long-run Welfare," in J. Sargent, research coordinator, Fiscal and Monetary Policy, Vol. 21, Research Program of the Royal Commission on the Economic Union and Development Prospects for Canada, 1986, p. 257-294.

(19) Y. Rabeau, "Déficit du gouvernement canadien: à quelle vitesse les autorités budgétaires doivent-elle réagir," Canadian Public Policy-Analyse de Politiques, XIII, No. 4, p. 423-434.

increased deficit has no effect on private capital formation but it also has no stimulating effect on aggregate demand.

The analysis, then, provides two opposite views of increased public debt, bearing in mind that increasing public debt simply means running budgetary deficits. With full crowding out, the long-term effects are counter-productive although the short-term effects may be expansionary, for example moderating the impact of a recession. If no crowding out takes place, the long-run effects are benign, but no short-term stimulus is created. This result is interesting since those who claim that crowding out is not a great concern are also those who argue in favour of the stimulating effects of budgetary deficits. If households view deficits as future taxes and increase their own savings in response, there will be a strong relationship between government deficits and private savings. If the federal government accepts the Barber view discussed above it will take this as evidence that greater deficits are needed and savings will then increase further. The relationship that Professor Barber notes will be in evidence but his conclusions may be totally incorrect.

The no crowding out and no short-term stimulus theory has no widespread support in the economics profession and there is little evidence to defend it. Thus, the most accepted belief is that there will be a potential short-term stimulus (unless of course the economy is operating close to capacity) and some longer-term crowding out. One of the more prominent proponents of this contention is Professor Benjamin Friedman. In a study of American savings and investment he found that the amount of domestic saving available for net capital formation has been relatively constant over time. With very large increases in the budgetary deficit of the U.S. government, domestic financing of capital formation has been inadequate. Part of the discrepancy has been made up with foreign savings but not at sufficient levels to maintain the rates of capital accumulation the United States economy has experienced in the past.(20)

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(20) B.M. Friedman, "Implications of the Government Deficit for U.S. Capital Formation," in The Economics of Large Government Deficits, Conference Series No. 27, Federal Reserve Bank of Boston, October 1983, p. 73-95.

D. We Owe it to Ourselves

An interesting feature of the Friedman analysis is that foreign savings have increasingly become a source of financing for capital formation in the United States. This foreign saving has enabled the American economy to maintain, at least partially, the rate of its previous capital formation, even in the face of large government deficits. Although the effects of such a capital inflow are well known by now, (i.e., an increased value of the American dollar and corresponding current account trade deficits), the beneficial effects of such foreign savings seem to contradict the arguments that the debt is not a problem because we owe it to ourselves.

It may well be that the American public debt, like its Canadian counterpart, is held by domestic residents. Large inflows of savings, however, must then imply that private debt is increasingly held by foreigners.

Economists such as Professor Ruben Bellan argue that a large public debt load is not a problem because it is held within Canada. Even though the federal government faces a large debt service charge on this debt, those interest payments constitute income for Canadians and are consequently no drain on the Canadian economy. The same rules, however, must apply to private debt. Canada has a long history of reliance upon foreign sources of savings and as government deficits exacerbate this reliance they should be of concern whether the foreign funds purchase debt instruments which are government issued or privately issued.(21)

Professor Bellan further makes the point that the debt will pose no burden to future generations because the tax burden imposed to pay the debt interest is offset by the income generated by the interest. As he says "What we are passing on to future generations of Canadians is the obligation to tax themselves in order to pay themselves what they have just raised by taxation."(22) If this were so, there would be no

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(21) R. Bellan, "The National Blessing," Policy Options Politiques, September 1984, p. 39-44.

(22) Ibid., p. 41.

intergenerational transfers as a result of the debt. But this is not the case. As a general rule we do not bequeath government debt instruments to the next generation, we sell them to the next generation, which gives up resources to purchase assets which are collectively worthless to them. As Bruce and Purvis further point out, it is through the sale of such debt instruments to the next generation that an intergenerational transfer takes place: "The public debt is the only way existing generations can effectively consume the product of future generations."(23)

Indeed, the only way the Bellan argument can hold true is for households to increase their savings in the face of these deficits so that the bonds thus purchased as a consequence of higher debt levels can be passed on to heirs. As the Boadway and Clark analysis points out, in such a case budgetary deficits would have no short-term stimulative effect. Thus the long-run conclusions cited by Professor Bellan are inconsistent with his short-run conclusions.

E. Deficits and Government Expenditures

Up to this point, the discussion of the deficit has been divorced from any discussion of the size of government, spending or revenues: the deficit has been viewed as an alternative to taxation as a means of financing some predetermined level of spending. But some opponents to large deficits, notably Milton Friedman, base their position on the belief that deficits enable the government to spend more than it could if such spending had to be financed through taxes. Because debt financing, unlike taxation, involves a voluntary transaction on the part of the private sector, there is less public hostility and less scrutiny of spending. This can lead to inefficient decision-making with respect to government expenditures. Proponents of deficit finance may agree that it increases spending, but they think that more government spending is good.

Even if the deficit itself had no stimulative or crowding out effects, it would still be the subject of considerable debate simply

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(23) N. Bruce and D.D. Purvis (1986), p. 62.

because there is no consensus as to the value of government expenditures. From 1950 to 1982, total government expenditures, as a proportion of Gross National Product, rose from 22.1% to 47.4%.(24) Is this good or bad?

Those who consider an economy based on free markets and competition to be inherently more efficient than one which is government directed view this growth in government spending with alarm because it moves the economy farther from its potential. This is a common view in economics of the workings of various industries and markets but this microeconomic analysis is rarely applied to macroeconomic debates. That government expenditures and deficits convert savings to current consumption rather than investment is just one part of the problem. Government intervention also distorts decisions about the composition of consumption and investment and so reduces the performance of the economy.

Advocates of government intervention cite the failure of the market to guarantee full employment (the Keynesian view) as well as market failure at the industry level. Public goods are not produced in sufficient quantities by private firms. Goods that produce negative externalities (for example, pollution) are over-produced by private firms. Those who are sympathetic to government involvement in the economy cite pollution controls, public infrastructure, health care, education, etc., as being beneficial forms of government spending which are brought to us in part by deficit finance.

CONCLUDING REMARKS

The deficit debate in Canada and the United States has followed very much the same path over time with the most recent question being whether the deficit exists.

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(24) J.L. Howard and W.T. Stanbury, "Measuring Leviathan: The Size, Scope, and Growth of Governments in Canada," in G. Lermer (ed.), Probing Leviathan - An Investigation of Government in the Economy. The Fraser Institute, Vancouver, 1984.

In general, claims made both in favour of and against high deficits and debt levels have some merit. Often, though, those in favour of deficits are carried much further than economic logic would dictate.

BIBLIOGRAPHY

Barber, C. "We Are Saving Too Much." Policy Options Politiques, March 1987, p. 12-13.

Bellan, R. "The National Blessing." Policy Options Politiques, September 1984, p. 39-44.

Boadway, R.W. and W.S. Clark. "The Government Budget, Accumulation of Capital, and Long-Run Welfare." Fiscal and Monetary Policy. J. Sargent, research coordinator. Vol. 21, Research Program of the Royal Commission on the Economic Union and Development Prospects for Canada, 1986, p. 257-294.

Bossons, J. and D.P. Dungan. "The Government Deficit: Too High or Too Low?" Canadian Tax Journal, Vol. 322, No. 100, January-February 1983, p. 1-29.

Bruce, N. and D.D. Purvis. "Fiscal Discipline and Rules for Controlling the Deficit: Some Unpleasant Keynesian Arithmetic." Deficits: How Big and How Bad? D.W. Conklin and T.J. Courchene eds. Ontario Economic Council, Toronto, 1983, p. 323-340.

Bruce, N. and D.D. Purvis. "Consequences of Government Budget Deficits." Fiscal and Monetary Policy. J. Sargent, research coordinator. Vol. 21, Research Program of the Royal Commission on the Economic Union and Development Prospects for Canada, 1986, p. 43-84.

Canada, Department of Finance. The Federal Deficit in Perspective. Ottawa, April 1983.

Chouraqui, J.-C. et al. "Public Debt in a Medium-Term Perspective." OECD Economic Studies, No. 7, Autumn 1986, p. 103-153.

Eisner, R. "Will the Real Federal Deficit Stand Up?" Challenge, May-June 1986, p. 13-21.

Eisner, R. and P.J. Pieper. "How to Make Sense of the Deficit." Public Interest, No. 78, Winter 1985, p. 101-118.

Friedman, B.M. "Implications of the Government Deficit for U.S. Capital Formation." The Economics of Large Government Deficits. Conference Series No. 27. Federal Reserve Bank of Boston, October 1983, p. 73-95.

Howard, J.L. and W.T. Stanbury. "Measuring Leviathan: The Size, Scope, and growth of Governments in Canada." Probing Leviathan - An Investigation of Government in the Economy. G. Lermer, ed. The Fraser Institute, Vancouver, 1984.

Krehm, W. "The Deficit as Mirage." Policy Options Politiques, June 1985, p. 36-40.

Levy, M.E. "A Summary of the Proceedings of the Conference Board's Economic Policy Forum." Federal Budget Deficits and the U.S. Economy. The Conference Board, New York, 1984.

McCallum, J. "Government Deficits: Historical Analysis and Present Policy Alternatives." Deficits: How Big and How Bad? D.W. Conklin and T.J. Courchene, eds. Ontario Economic Council, Toronto, 1983, p. 284-317.

Ontario Economic Council. Deficits: How Big and How Bad? An Ontario Economic Council Position Paper. Toronto, 1985.

Rabeau, Y. "Déficit du gouvernement canadien: à quelle vitesse les autorités budgétaires doivent-elles réagir?" Canadian Public Policy, Vol. XIII, No. 4, p. 423-434.

Wilson, T. "The Fiscal Stance and the Economic Outlook - The Short Term Impact." Report of the Policy Forum on the May 1985 Federal Budget. D.D. Purvis, ed. John Deutsch Institute for the Study of Economic Policy, July 1985.